

### **Amendments to the Claims:**

Please cancel claims 1-20 and add new claims 21-37. This listing of claims will replace all prior versions and listings of claims in the application.

### **Listing of Claims:**

1. - 20. (Cancelled)

21. A gas/liquid separator assembly comprising:

- (a) a vessel including an outer wall and having a gas flow inlet, a gas flow outlet and a lower sump;
  - (i) the vessel including a sidewall;
  - (ii) the gas flow inlet extending through the sidewall;
- (b) a pre-separation assembly comprising a tube sheet structure including:
  - (i) a radially continuous axial shroud comprising a depending central wall positioned spaced from the vessel outer wall to define a gas flow annulus therebetween;
  - (ii) an annular mounting ring extending between the axial shroud and the vessel sidewall and supporting the axial shroud; and,
  - (iii) a base having at least one aperture comprising a flow channel therethrough;
  - (iv) the tube sheet structure being positioned to separate an enclosed upper region from an enclosed lower region;
  - (v) the depending central wall and base generally defining an upper sump;
  - (vi) the gas flow inlet being positioned for gas flow into the enclosed lower region and into the gas flow annulus; and,
  - (vii) the gas flow outlet being positioned for gas flow out of the enclosed upper region; and,
- (c) a mounting space for at least one removable and replaceable in-to-out flow separator element in the enclosed upper region surrounded by and spaced from the gas flow inlet by the axial shroud;

- (i) the axial shroud extending along a distance of at least 20%, and not more than 60%, of an axial length of the mounting space for at least one removable and replaceable in-to-out flow separator element.
- 22. A gas/liquid separator assembly according to claim 1 including:
  - (a) a removable and replaceable in-to-out flow separator element positioned within the enclosed upper region in association with each flow channel in the base of the tube sheet structure.
- 23. A gas/liquid separator assembly according to claim 2 comprising:
  - (a) one removable and replaceable in-to-out flow separator element.
- 24. A gas/liquid separator assembly according to claim 2 comprising:
  - (a) two removable and replaceable in-to-out flow separator elements.
- 25. A gas/liquid separator assembly according to claim 2 comprising:
  - (a) three removable and replaceable in-to-out flow separator elements.
- 26. A gas/liquid separator assembly according to claim 1 wherein:
  - (a) the axial shroud extends along a distance of at least 35%, and not more than 60%, of the axial length of the mounting space for at least one removable and replaceable separator element.
- 27. A gas/liquid separator assembly according to claim 6 wherein:
  - (a) the axial shroud extends along a distance of at least 35%, and not more than 50%, of the axial length of the mounting space for at least one removable and replaceable separator element.
- 28. A gas/liquid separator assembly according to claim 1 wherein:
  - (a) the axial shroud is cylindrical.

29. A gas/liquid separator assembly according to claim 1 wherein:
- (a) the gas flow inlet is a radial inlet.
30. A gas/liquid separator assembly according to claim 1 wherein:
- (a) the gas flow outlet extends through the outer wall.
31. A gas/liquid separator assembly according to claim 1 including:
- (a) an inlet skirt positioned below the gas flow inlet and extending to the vessel outer wall;
    - (i) the gas flow inlet being positioned to direct inlet gas flow into the gas flow annulus above the inlet skirt;
    - (ii) the inlet skirt including at least one downcomer channel at a location radially spaced from the inlet; and,
  - (b) a radial vane positioned between the downcomer channel and the gas flow inlet to direct gases through a radial path of at least 70° before the gases can pass from the gas flow inlet through the downcomer channel; and,
  - (c) at least one removable and replaceable separator element positioned, in the mounting space for at least one removable and replaceable separator element, surrounded by and spaced from the gas flow inlet by the axial shroud.
32. A gas/liquid separator assembly according to claim 11 wherein:
- (a) the radial vane is positioned to direct gases through a radial path of at least 180° before the gases can pass from the gas flow inlet through the downcomer channel.
33. A gas/liquid separator assembly according to claim 12 wherein:
- (a) the downcomer channel is spaced from the gas flow inlet, by a radial path of at least 230°.

- (F) the gas flow inlet being positioned for gas flow into the enclosed lower region and into the gas flow annulus; and,
  - (G) the gas flow outlet being positioned for gas flow out of the enclosed upper region;
- (iii) a mounting space for at least one removable and replaceable in-to-out flow separator element in the enclosed upper region surrounded by and spaced from the gas flow inlet by the axial shroud;
  - (A) the axial shroud extending along a distance of at least 20%, and not more than 60%, of an axial length of the mounting space for at least one removable and replaceable in-to-out flow separator element; and,
- (iv) a removable and replaceable in-to-out flow separator element positioned within the enclosed upper region in association with each flow channel in the base of the tube sheet structure; and,
- (b) directing a fluid stream from the inlet:
  - (i) beneath a lower edge of an axial shroud;
  - (ii) through at least one removable and replaceable in-to-out flow separator element; and
  - (iii) outwardly through the outlet.

34. A gas/liquid separator assembly according to claim 13 wherein:
  - (a) the downcomer channel has a radial extension of at least 30°.
35. A gas/liquid separator assembly according to claim 14 wherein:
  - (a) the downcomer channel has a radial extension of no more than 130°.
36. A gas/liquid separator assembly according to claim 15 wherein:
  - (a) the inlet skirt has an upper surface which slants downwardly in extension toward said outer wall.
37. A method of separating an air/oil mixture from compressor; said method including steps of:
  - (a) providing a gas/liquid separator comprising:
    - (i) a vessel including an outer wall and having a gas flow inlet, a gas flow outlet and a lower sump;
      - (A) the vessel including a sidewall;
      - (B) the gas flow inlet extending through the sidewall;
    - (ii) a preseparation assembly comprising a tube sheet structure including:
      - (A) a radially continuous axial shroud comprising a depending central wall positioned spaced from the vessel outer wall to define a gas flow annulus therebetween;
      - (B) an annular mounting ring extending between the axial shroud and the vessel sidewall and supporting the axial shroud; and,
      - (C) a base having at least one aperture comprising a flow channel therethrough;
      - (D) the tube sheet structure being positioned to separate an enclosed upper region from an enclosed lower region;
      - (E) the depending central wall and base generally defining an upper sump;